

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV

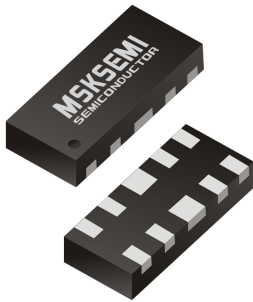


GDT



PLED

Product data sheet



uDFN-10

Features

- 60Watts peak pulse power ($t_p = 8/20\mu s$)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j = 0.2pF$ typ. I/O to I/O)
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 25kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

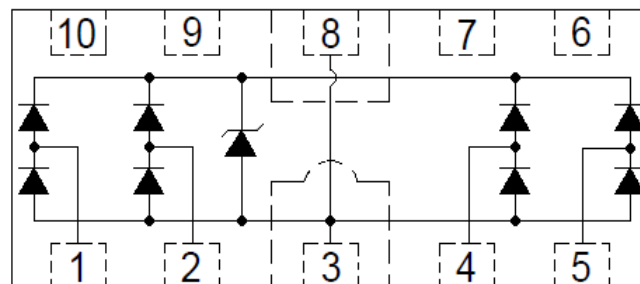
Mechanical Data

- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Applications

- USB3.0, USB2.0, Ethernet
- HDMI 2.0, Displayport 1.3, eSATA
- Unified Display interface
- Digital Visual Interface
- High speed serial interface

Schematic & PIN Configuration

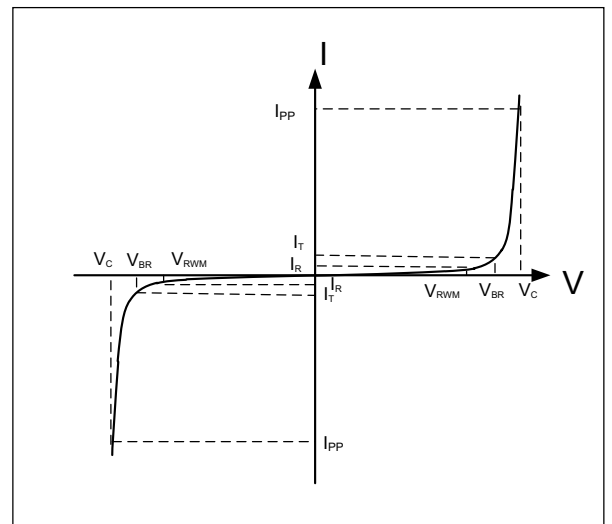


Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------|-----------|------------------------------------|-----|---------|------|---------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.0 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5V, T=25^{\circ}C$ | | | 1 | μA |
| Peak Pulse Current | I_{PP} | $t_p = 8/20\mu s$ | | | 4 | A |
| Clamping Voltage | V_C | $I_{PP}=4A, t_p=8/20\mu s$ | | | 15 | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ I/O to I/O | | 0.2 | 0.3 | pF |
| | | $V_R = 0V, f = 1MHz$ I/O to GND | | 0.4 | 0.55 | |

Electrical Parameters (TA = 25°C unless otherwise noted)

| | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| | |
| | |



Note: .8/20 μs pulse waveform.

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

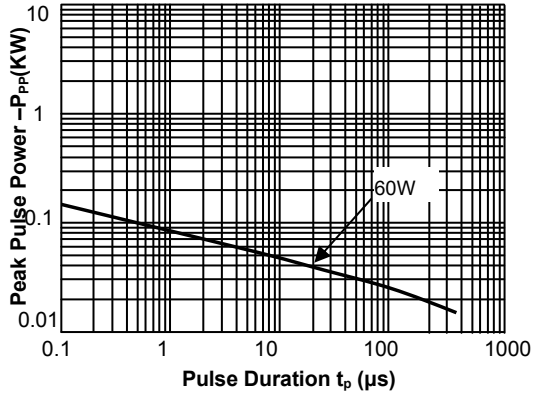


Fig.2 Pulse Derating Curve

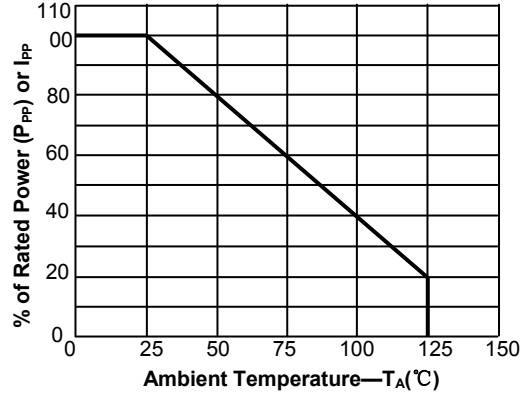


Fig.3 Pulse Waveform-8/20 μs

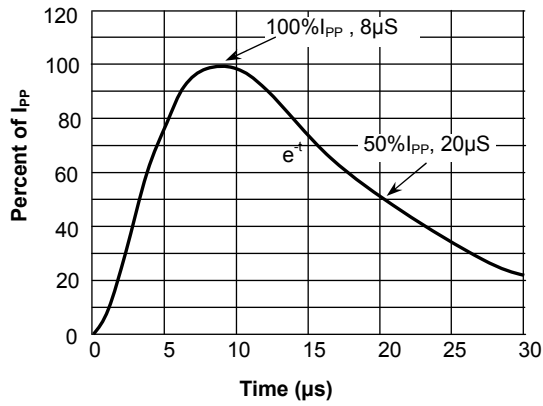
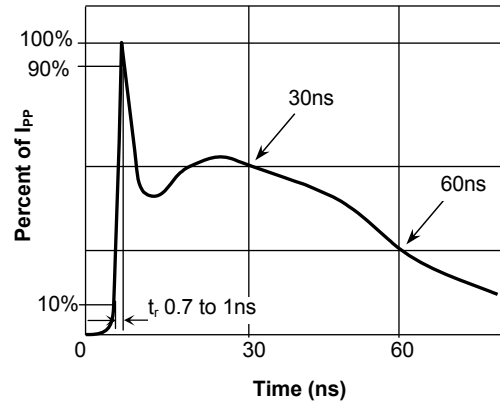
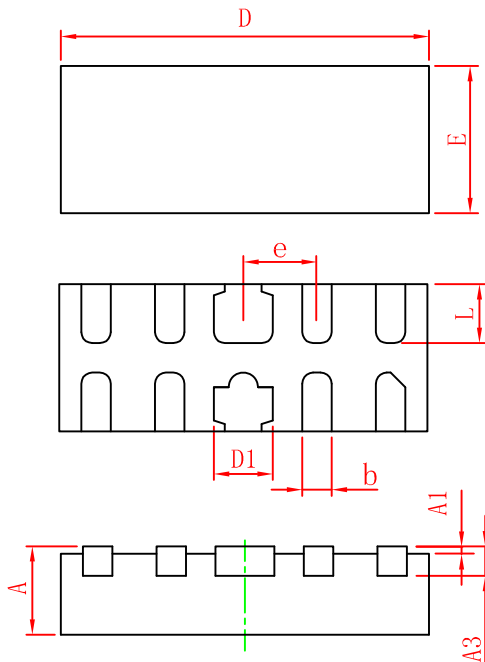


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)



PACKAGE MECHANICAL DATA



| Symbol | Dimensions in millimeters | | |
|--------|---------------------------|------|------|
| | Min | Nom | Max |
| A | 0.45 | 0.50 | 0.55 |
| A1 | - | 0.02 | 0.05 |
| A3 | 0.10 | 0.15 | 0.20 |
| D | 2.45 | 2.50 | 2.55 |
| E | 0.95 | 1.00 | 1.05 |
| D1 | 0.35 | 0.40 | 0.45 |
| b | 0.15 | 0.20 | 0.25 |
| e | 0.50BSC | | |
| L | 0.35 | 0.40 | 0.45 |

REEL SPECIFICATION

| P/N | PKG | QTY |
|-----------------|---------|------|
| SP3010-04UTG-MS | uDFN-10 | 3000 |

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